00169.001955 <u>PATENT</u>

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	) : Examiner: V. Bali	
KIERAN GERARD LARKIN ET AL.	)	2
Appl. No.: 09/754,310	: Group Art Unit: 2623	
Filed: January 5, 2001	: Confirmation No. 3335	35
For: DEMODULATION AND PHASE ESTIMATION OF TWO- DIMENSIONAL PATTERNS	· ) ; )	
U.S. Patent No.: 7,043,082 B2	;	
Issued: May 9, 2006	) January 4, 2007	

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

# CERTIFICATE OF CORRECTION UNDER RULES 322 AND 323

Sir:

It is respectfully requested that a Certificate of Correction be issued by the Patent and Trademark Office due to errors, which appear in the printed patent as a result of Patent and Trademark Office mistakes, and mistakes of a clerical, typographical, or minor character, which are not the fault of the Patent and Trademark Office. A Certificate of Correction form is attached.

Please charge Deposit Account No. 50-3939 the \$100.00 fee for the Certificate of Correction.

Patentees' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

Attorney for Patentees Registration No.: 38,667

FITZPATRICK, CELLA, HARPER & SCINTO 30 Rockefeller Plaza

New York, New York 10112-3800 Facsimile: (212) 218-2200

NY\_MAIN 610346v1

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# CERTIFICATE OF CORRECTION

PATENT NO.

7,043,082 B2

DATED

May 9, 2006

INVENTOR(S)

KIERAN GERARD LARKIN ET AL.

Page 1 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

# COLUMN 1

Line 16, "x-ray" should read --x-ray.--.

### COLUMN 3

Line 48, "comprises." should read --comprises:--.

# COLUMN 5

Line 21, "an" should be deleted.

Line 54, "f(x, y)=a(x, y)+b(x, y),  $\cos \left[2\pi \left(u_o\{x-x_o\}+v_o\{y-y_o\}\right)-\chi\right]$ " should read -f(x, y)=a(x, y)+b(x, y).  $\cos \left[2\pi \left(u_o\{x-x_o\}+v_o\{y-y_o\}\right)+\chi\right]-$ .

# COLUMN 6

Line 20, "wherein  $i=\sqrt{b-1}$ " should read --wherein  $i=\sqrt{-1}$ --.

Line 34, "satisfies" should read --satisfy--.

# COLUMN 7

Line 5, "P(u, v)=exp[iX(u, v)]=P(-u, -v)=-exp[i(X(u, v)+ $\pi$ )]" should read

 $--P(u, v) = exp[i\chi(u, v)] = -P(-u, -v) = -exp[i(X(u, v) + \pi)] --.$ 

Line 35, " $G_{\Omega}(u, v) = (B_{\Omega}(u - u_o, v - v_o) \exp[iX] + B_{\Omega}(u + u_o, v + v_o) \exp[-i\chi])e^{-2\pi(ux0+vy0)}$ " should read

 $--G_{\Omega}(u,\,v) = (B_{\Omega}(u-u_o,\,v-v_o) \exp[i\chi] + B_{\Omega}(u+u_o,\,v+v_o) \, \exp[-i\chi]) e^{-2\pi i (ux0+vy0)} -- .$ 

### COLUMN 9

Line 19, "an" should read --a--.

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### COLUMN 10

Line 29, "2-dimensions,)" should read --2-dimensions),--.

### COLUMN 11

Line 56, " $2\pi(u+iv)=2\pi q.exp(i\varphi)$ " should read  $-2\pi(u+iv)=2\pi q.exp(i\varphi)$ --.

# COLUMN 12

Lines 6-9, "
$$2\pi i$$
)q exp( $i\phi$ )G(u, v) $\iff$  D{g(x, y)} (31)  
 $(2\pi i)^2 q^2 \exp(2i\phi)$ G(u, v) $\iff$  D<sup>2</sup>{g(x, y)}" (32)  
should read  
 $-2\pi i$ )q exp( $i\phi$ )G(u, v) $\iff$  D{g(x, y)} (31)

$$(2\pi i)^2 q^2 \exp(2i\varphi)G(u, v) \iff D^2\{g(x, y)\}$$
(32)--.

Line 16, "is" should read --are--.

Line 23, "is" should read --are--.

Line 49, "operator" should read --operator.--.

Line 61, "
$$\exp(i\phi)G \iff D_M\{g(x, y)\}\$$
 (33)" should read  $-\exp(i\phi)G \iff D_M\{g(x, y)\}\$  (33)--.

# COLUMN 13

Line 24, "greylevels" should read --grey levels--.

Line 44, "and 14E," should read -- and 14E.--.

### COLUMN 15

Line 34, "is" should be deleted.

Line 67, "patterns ie." should read --patterns, i.e.,--.

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# COLUMN 16

"V{
$$f(x, y)$$
}= $F^{-1}$ { $\exp[i\phi]F\{f(x, y)\}\}$ } (41)

 $F\{f(x, y)\}=F(u, v)=$ 

$$\int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(x, y)\exp[-2\pi i(ux+vy)]dxdy$$
 $F^{-1}$ { $F(x, y)$ }= $f(x, y)=$ 

$$\int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(u, v)\exp[+2\pi i(ux+vy)]dudv$$
 $u=q\cos\phi$ 
 $v=q\sin\phi$ "
should read
$$-V\{f(x, y)\}=F^{-1}\{\exp[i\phi]F\{f(x, y)\}\}$$
 $F\{f(x, y)\}=F(u, v)=$ 

$$\int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(x, y)\exp[-2\pi i(ux+vy)]dxdy$$
 $F^{-1}$ { $F(x, y)$ }= $f(x, y)=$ 

$$\int_{-\infty}^{+\infty} \int_{-\infty}^{+\infty} f(u, v)\exp[+2\pi i(ux+vy)]dudv$$
 $u=q\cos\phi$ 
 $v=q\sin\phi$ 
 $v=q\sin\phi$ ---

# COLUMN 17

Line 27, "compensating" should read --compensated--.

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:

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# COLUMN 18

Line 4, "advantage" should read --advantageous--. Line 47, " $\alpha_{nm}$ =Arg{ $ig_{nm}$ -i exp[ $-i\beta_c$ ]V{ $g_{nm}$ } $\}$   $\cong$  h[ $\chi$ +( $\delta m$ + $\delta n$ )/2]" should read  $-\alpha_{nm} = \operatorname{Arg}\{ig_{nm} - i \exp[-i\beta_e]V\{g_{nm}\}\} \cong h[\chi + (\delta m + \delta n)/2]$ 

### COLUMN 19

Line 42, "
$$h_c(x, y) = \alpha_{nm} - \alpha_{mk}$$
"
$$| \overline{\alpha_{nm} - \alpha_{mk}}| \text{ should read}$$

$$--h_e(x, y) = \alpha_{nm} - \alpha_{mk}$$

$$| \overline{\alpha_{nm} - \alpha_{mk}}| --.$$
Line 53, "an" should be deleted.

Line 53, "an" should be deleted.

## COLUMN 21

Line 30, "a" (second occurrence) should read --an--.

### COLUMN 22

Line 11, "sponds" should read --spond--.

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Page 5 of 5

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

# COLUMN 25

Line 14, "value" should read --values--.

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